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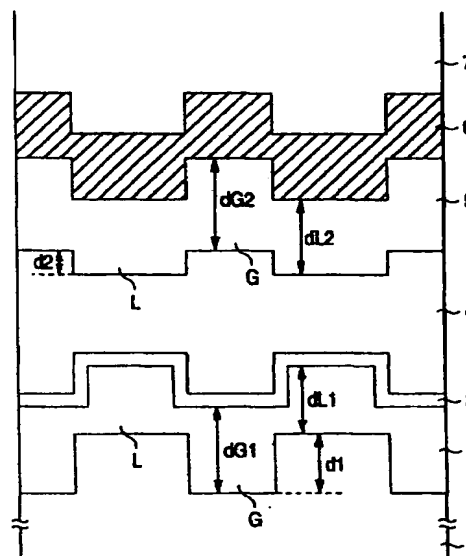
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**(54) Information recording medium**

(57) At the least, a first recording layer 2 and a translucent film layer 3 are laminated in order on a transparent substrate 1 to form a first information recording/reproduction unit; and at the least, a reflective film layer 6 and a second recording layer 5 are laminated in order on a transparent substrate 7 to form a second information recording/reproduction unit. Then, the first and the second information recording/reproduction units are glued together by a transparent bonding layer 4, with the translucent film layer 3 facing the second recording layer 5, so that a two-layer information recording medium is obtained. Further, grooves G and lands L are formed for the first and the second recording layers 2 and 5. The depths of the grooves are substantially equal for the first and the second recording layers 2 and 5, the heights of the lands L are substantially equal for the first and the second recording layers 2 and 5, and the depth of the grooves G are greater than the height of the lands L.

**FIG. 2****EP 1 067 535 A3**



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## EUROPEAN SEARCH REPORT

Application Number  
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) & JP 11 066622 A (TAIYO YUDEN CO LTD), 9 March 1999 (1999-03-09) * abstract; figures 1,7 *	1-6	G11B7/24 G11B7/007
A	US 5 764 619 A (NISHIUCHI KENICHI ET AL) 9 June 1998 (1998-06-09) * column 2, line 35 - column 4, line 3; figures 4,9 *	1,2,5,6	
A	EP 0 762 392 A (MITSUI TOATSU CHEMICALS) 12 March 1997 (1997-03-12) * page 4, line 45 - page 6, line 31; figures 1A,1B *	1-6	
A	US 5 756 265 A (ABE SHINYA ET AL) 26 May 1998 (1998-05-26) * column 7, line 53 - column 8, line 39; figures 5,6 *	1-6	TECHNICAL FIELDS SEARCHED (Int.Cl.7) G11B
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 12, 25 December 1997 (1997-12-25) & JP 09 212924 A (TOSHIBA CORP), 15 August 1997 (1997-08-15) * abstract *	1-6	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>16 November 2001</b>	Examiner <b>Holubov, C</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 30 5480

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The members are as contained in the European Patent Office EDP file on  
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16-11-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 11066622 A	09-03-1999	NONE	
US 5764619 A	09-06-1998	CN 1157048 A	13-08-1997
		EP 0764323 A2	26-03-1997
		WO 9631875 A2	10-10-1996
		JP 10505188 T	19-05-1998
		KR 248096 B1	15-03-2000
		SG 74605 A1	22-08-2000
		SG 74034 A1	18-07-2000
		US 6226239 B1	01-05-2001
		US 6027594 A	22-02-2000
EP 0762392 A	12-03-1997	JP 9120586 A	06-05-1997
		EP 0762392 A2	12-03-1997
		US 5696758 A	09-12-1997
US 5756265 A	26-05-1998	CN 1145516 A	19-03-1997
		JP 9054989 A	25-02-1997
		KR 225105 B1	15-10-1999
JP 09212924 A	15-08-1997	NONE	

EPO FORM P0469

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